

### Abstract of the Disclosure

A method and apparatus for managing a sliding window in an IP security algorithm are provided. The method involves (a) determining whether or not a sliding window, used for determining whether or not a received IP packet is to be transmitted or abandoned, is full of IP packets; and (b) updating sequence numbers stored in the sliding window by adding a size of the sliding window to each of the sequence numbers if the sliding window is full of IP packets. Accordingly, a sliding window is updated by adding the size of the sliding window or a predetermined value to each sequence number stored in the sliding window irrespective of a sequence number of a received IP packet. Therefore, IP packets can be more stably transmitted by checking the sequence number of the received IP packet and abandoning the received IP packet if the sequence number of the received IP packet is not within a predetermined range.